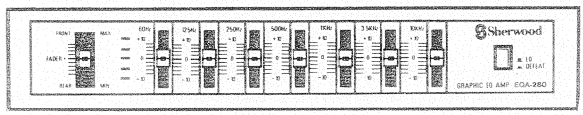
SERVICE MANUAL

Specifications

Power Output, minimum Rms per Channel into 4 ohms
At Less than 10% THD at 1KHz
..... 20Watts
At Less than 0.5% THD from 40Hz to 20KHz
..... 12Watts
Frequency Rosponse ..... 10Hz～30KHz
Singnal-to-Noise Ratio ... 85dB
Load Impedance..... 4～8 ohms
EQ Control Level..... ±10dB
EQ Control Frequency ... 60/125/250/500/1K/3.5K/10KHz
Input SenSitivity
High..... 350mV
Low 1000mV
Current Drain..... 3.5A(at 12W Output power)
Power Supply..... DC 14.4V(11～16V)
Polarity..... Negative Grand
Dimension..... 178(W)×25(H)×149(D)mm
Weight..... 0.9Kg



EQA-280

Car Stereo Graphic Equalizer / Amplifier

Sherwood

Note :
Specification and the design subject to Change without notice for improvements.

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Electrical Adjustment Procedure

Trouble Shooting

Service procedures common to sophisticated electronic instrument is applicable to this unit. In general, a carefully approach would include following steps.

1. Operate unit with a test, or quality tape appraise symptoms.
2. Determine trouble is electrical or mechanical.
3. Determine mapfunction is due to MAIN AMP PCB, VOULME PCB.
4. Checkout voltage distribution at IC's and transistor.
5. Pinpoint detective section and replace defective component (s).

NO SOUND

1. Blown fuse.
2. Open circuit in power supply source.
3. Output cord disconnected.
4. Input line disconnected.
5. Input connector disconnected.
6. Defective tuner or deck.
7. Defective IC, transistor, diode, relay and circuitry component.

SOUND DISTORTED

1. Defective tuner or deck.
2. Improper input level or impedance not matched.
3. Defective IC.
4. Faulty power source.

SOUND LEVEL LOW and/or DISTORTED IN ONE CHANNEL

1. Defective tuner or deck.
2. Disconnectied input or output cord.
3. Too long output cord length in one channel.
4. Defective IC.

Parts List & Top View of P.C Boards

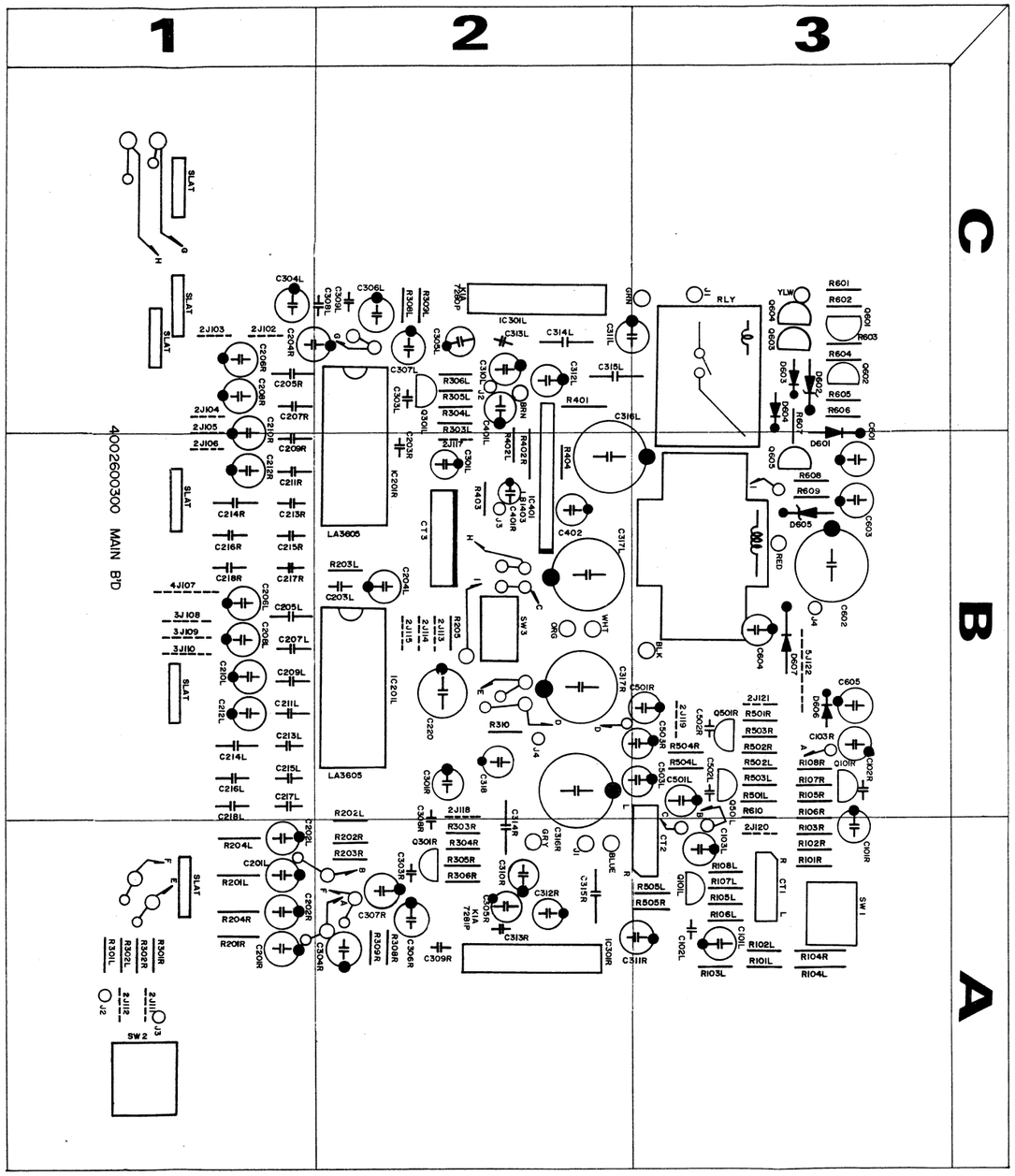
MAIN BOARD 4002600300

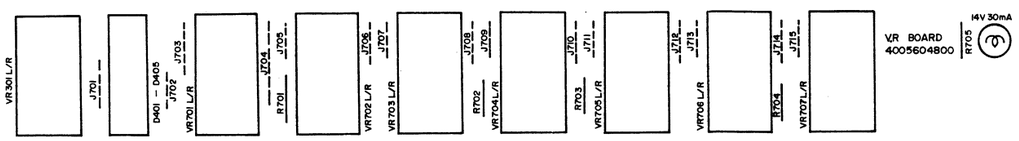
Ref No.	Part No.	Description	Posion
●IC			
IC301L	2168007124	KIA 72809	2C
IC301R	2168007125	KIA 72819	2A
IC201L/R	2168017120	LA 3605	2B
IC401	2168017103	LB 1403	2B
●TRANSISTOR			
Q101L/R	2008606104	KTC 1815Y	3A, 3B
Q501L/R			3B
Q601, Q603			3C
Q604			3C
Q605, Q301L			3B, 2C
Q301R			2A
Q602	2008209102	MPSA 56	3C
●DIODE			
D607	2058106101	IN 4003	3B
D601, D603	2058322101	IN 4148M	3C
D604, D606			3C, 3B
D605	2058513107	Zener RD 9·1EB3	3B
D602	2058513105	Zener RD6·1EB2	3C
●CAPACITOR			
C212L/R	3409222871	Elect SA0·22μF/50V	
C210L/R	3409233871	Elect · SA0·33μF/50V	
C208L/R	3409268871	Elect · SA0·68μF/50V	
C206L/R	3409215972	Elect · SS1·5μF/50V	
C101L/R	3409247971	Elect · SA4·7μF/50V	
C103L/R			
C201L/R			
C202L/R			
C301L/R			
C304L/R			
C305L/R			
C401L/R			
C501L/R			
C503L/R			
C402	3409210071	Elect · SA 10μF/50V	
C204L/R	3409222031	Elect · SA22μF/16V	
C306L/R	3409210121	Elect · SA100μF/10V	
C307L/R			
C301L/R			
C310L/R			
C311L/R			
C312L/R, C601			
C603, C604			
C605			
C220	3409222131	Elect · SA220μF/16	
C316L/R,	3409210233	Elect · SA1000μF/16	
C602			
C317L/R	3409215223	Elect · SA1500μF/16	
C318	3409222131	Elect · SA220μF/10	
C203L/R 3	3609102120	Mylar 0.001μF/100V	
C215L/R	3609122120	Mylar 0.0012μF/100V	
C309L/R			
C313L/R			
C213L/R	3609272120	Mylar 0.0027μF/100V	
C211L/R	3609562120	Mylar 0.0056μF/100V	
C218L/R	3609123120	Mylar 0.012μF/100V	
C209L/R	3609153120	Mylar 0.015μF/100V	
C216L/R	3609223120	Mylar 0.022μF/100V	
C207L/R	3609273120	Mylar 0.027μF/100V	
C205L/R	3609563120	Mylar 0.056μF/100V	
C214L/R	3609104120	Mylar 0.1μF/100V	
C314L/R	3609154120	Mylar 0.15μF/100V	
C315L/R			
C102L/R	3509200130	Ceramic 20pF/50V	
C303L/R			
C502L/R			
C308L/R	3509561233	Ceramic 560pF/50V	
C217L/R	3619251110	Poly 250pF/50V	
●RESISTER			
R504L/R	3069471970	CF 470ohm ⅕WJ	
R308L R L/R	3069561970	CF 560ohm ⅕WJ	
R309L/R			
R205, R206	3069220970	CF 22ohm ⅕WJ	
R301, R401	3069101970	CF 100ohm ⅕WJ	
R609			

Ref No.	Parts No.	Description	Position
R609 8	3069331970	CF 330ohm ⅕WJ	
R108L/R	3069102970	CF 1K ohm ⅕WJ	
R305L/R			
R306L/R			
R603			
R207L/R	3069122970	CF 1.2K ohm ⅕WJ	
R503L/R	3069182970	CF 1.8K ohm ⅕WJ	
R605	3069272970	CF 2.7K ohm ⅕WJ	
R202L/R	3069512970	CF 5.1K ohm ⅕WJ	
R102L/R	3069822970	CF 8.2K ohm ⅕WJ	
R104L/R			
R101L/R	3069103970	CF 10K ohm ⅕WJ	
R203L/R			
R404			
R505L/R			
R610, R604			
R301L/R			
R302L/R			
R103L/R	3069153970	CF 15K ohm ⅕WJ	
R602	3069223970	CF 22K ohm ⅕WJ	3069
R201L/R	3069473970	CF 47K ohm ⅕WJ	
R204L/R			
R606			
R106L/R	3069683970	CF 68K ohm ⅕WJ	
R502L/R			
R105L/R	3069104970	CF 100K ohm ⅕WJ	
R304L/R			
R601			
R402L/R	3069124970	CF 120K ohm ⅕WJ	
R303L/R	3069154970	CF 150K ohm ⅕WJ	
R501L/R	3069224970	CF 220K ohm ⅕WJ	
R403	3069394970	CF 390K ohm ⅕WJ	

VOLUME P.C. BOARD

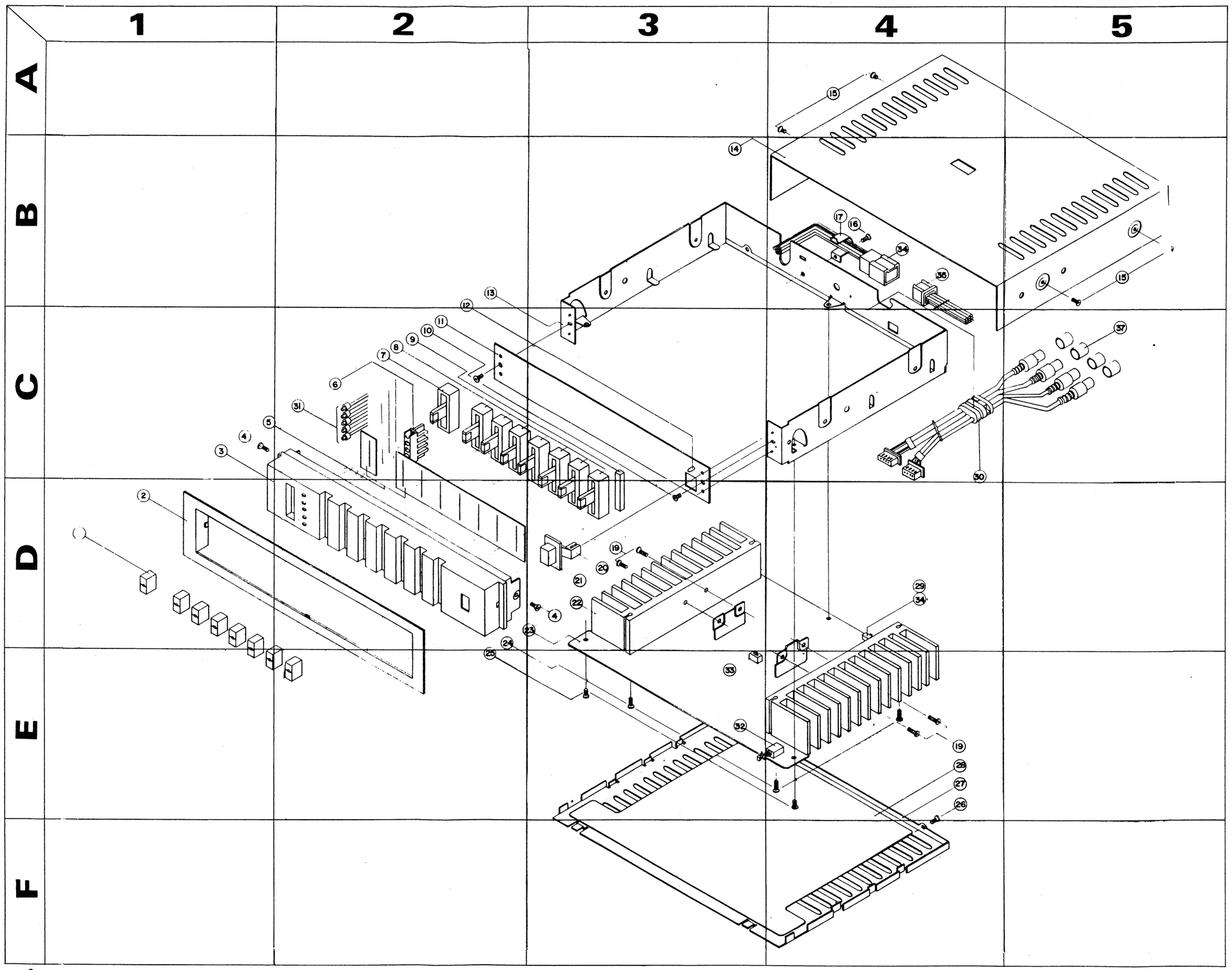
Ref No.	Parts No.	Description	Position
●RESISTOR			
R705	3069151900	CF 150 ohm ⅕WJ	970
R701, R702	3069821970	CF 820 ohm ⅕WJ	
R703, R704			



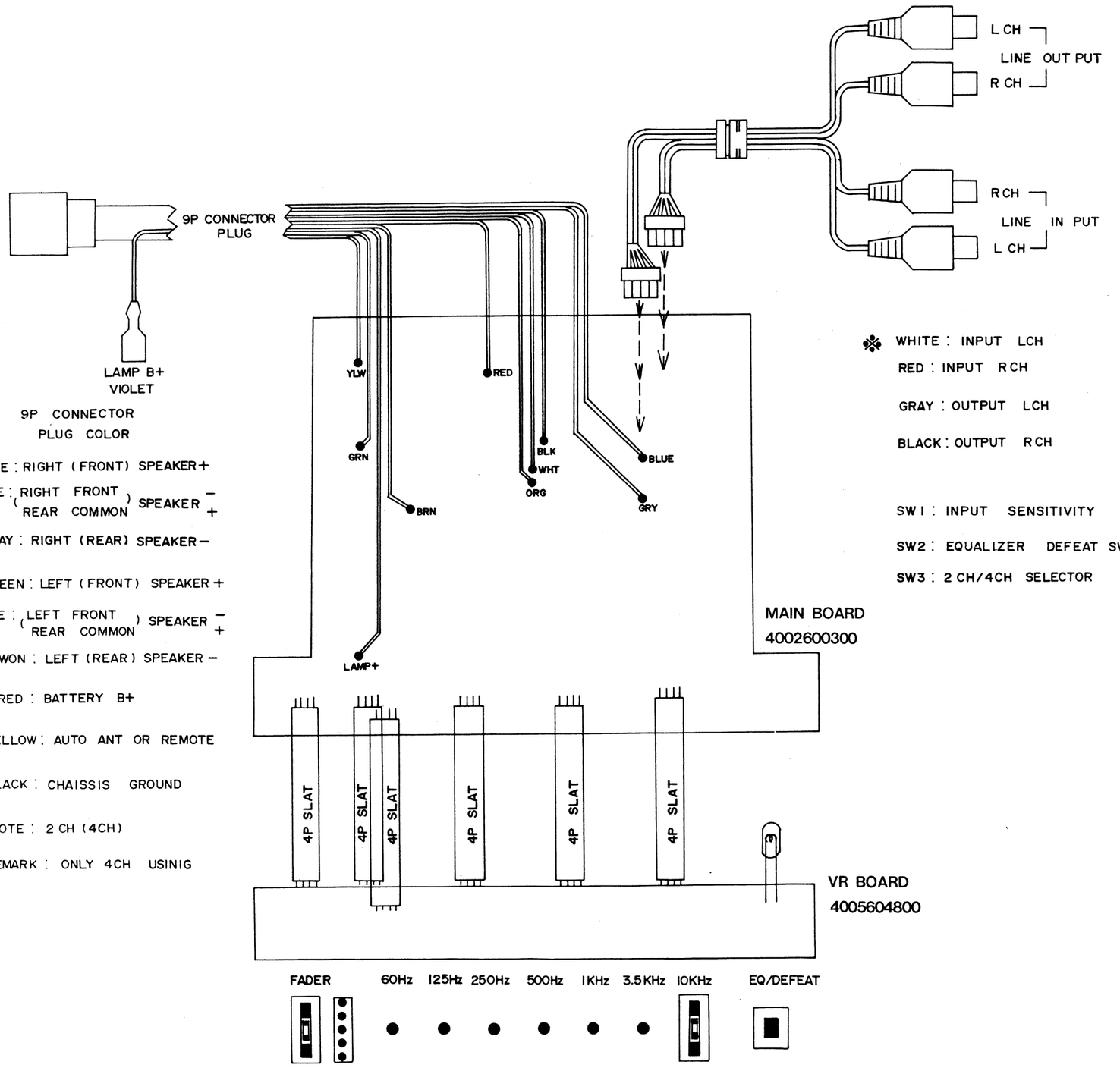


Parts List & Exploded View of Cabinet & Chassis

NO.	PARTS NO	DESCRIPTION	POSITION	Q'TY
1	8445032110 5	KNOB EQ VOLUME	4A	8
2	8523007810	DECORATION PANEL	4A	1
3	048502001911	PANEL FRONT	3A	1
4	8029130051	SCREW FM 3×5Y	3A.4C	2
5	6725001510	FELT EQ VOLUME	3A	1
6	6705006010	SPACER LED	3B	1
7	3238406610	SLIDE VOLUME	3B	1
8	3238406510	SLIDE VOLUME	3B	7
9	6705005220	RUBBER SPONGE	3B	1
10	8119430051	SCREW SAM 3×5Y	3B	2
11	4005604800	EQ VOLUME PC BOARD	3B	1
12	2528203610	LAMP(14V/30mA)	2B	1
13	6123617310	CHASSIS MAIN	2B	1
14	046123005311	COVER TOP	2C	1
15	8119430053	SCREW SAM 3×5B	2E	4
16	8119430051	SCREW SAM 3×5Y	2D	1
17	6515005210	HOLDER POWER CORD	2D	1
18				1
19	8119430101	SCREWSAM 3×10Y	4C.5D	4
20	8545032220	BUTTON CONNECTOR	4C	1
21	8545032210	BUTTON DEFEAT	4C	1
22	7505000310	HEAT SINK	4C	2
23	4002600300	MAIN PC BOARD	4C	1
24	8109230081	SCREW #2 PTC 3×8Y	4B	4
25	8119430051	SCREW SAM 3×5Y	5B	3
26	8119430041	SCREW SAM 3×4Y	5D	2
27	6123404510	COVER BOTTOM	5D	1
28	4835008110	INSULATION COVER	5D	1
29	6505069010	BKT IC	4D	2
30	4323000110	RCA CORD	3D	1
31	2308220115	LED	3B	5
32	4628012010	SW PUSH	5C	1
33	4618005020	SW SLIDE	5C	1
34	4618005010	SW SLIDE	4D	1
35	4428511610	ASS'Y CONNECTOR POWER	2D	1
36	4355020490	ASS'Y CONNECTOR POWER PLUG	2D	1
37	6065101110	CAP CORD RCA	3E	4



Point to Point Wiring Diagram



9P CONNECTOR PLUG COLOR

BLUE : RIGHT (FRONT) SPEAKER+

● ORANGE : (RIGHT FRONT / REAR COMMON) SPEAKER −/+

GRAY : RIGHT (REAR) SPEAKER−

GREEN : LEFT (FRONT) SPEAKER +

● WHITE : (LEFT FRONT / REAR COMMON) SPEAKER −/+

BRWON : LEFT (REAR) SPEAKER −

RED : BATTERY B+

YELLOW : AUTO ANT OR REMOTE

BLACK : CHAISSIS GROUND

※ NOTE : 2 CH (4CH)

● REMARK : ONLY 4CH USINIG

※ WHITE : INPUT LCH

RED : INPUT RCH

GRAY : OUTPUT LCH

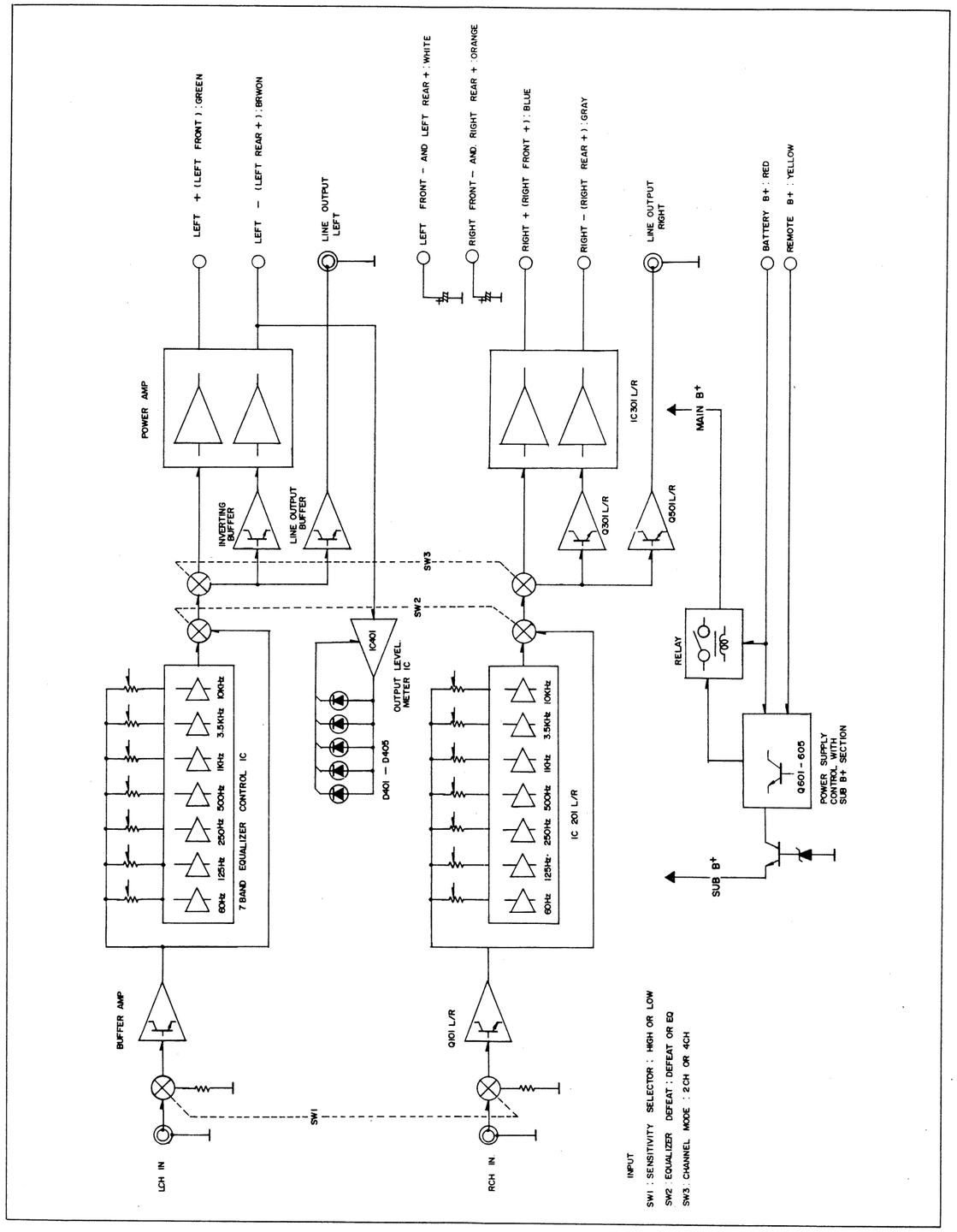
BLACK : OUTPUT RCH

SW1 : INPUT SENSITIVITY

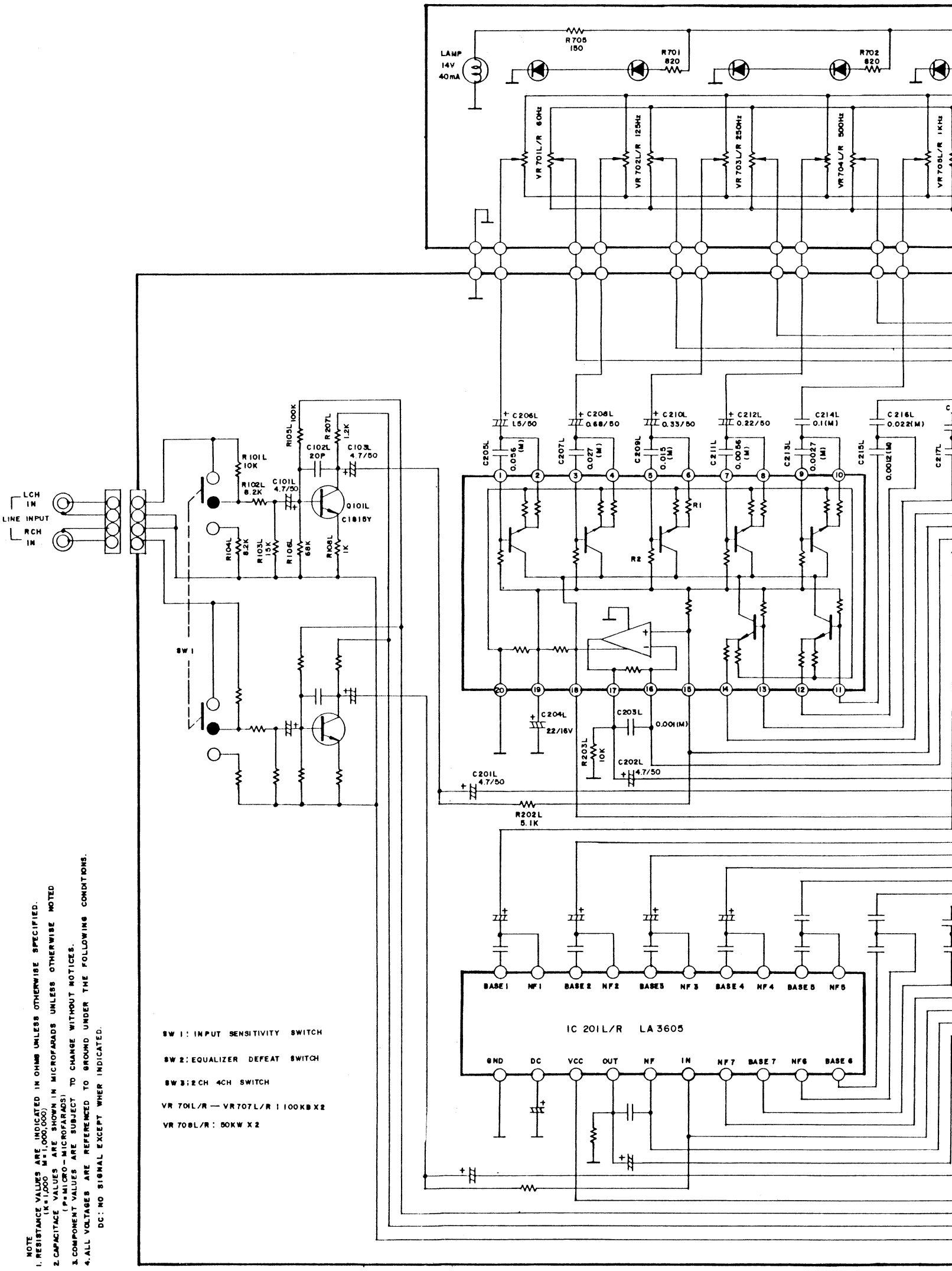
SW2 : EQUALIZER DEFEAT SWITCH

SW3 : 2 CH/4CH SELECTOR

Block Diagram



Schematic
EQA



SW 1 : INPUT SENSITIVITY SWITCH

SW 2 : EQUALIZER DEFEAT SWITCH

SW 3 : 2CH 4CH SWITCH

VR 701L/R — VR 707L/R : 100KB X 2

VR 708L/R : 50KW X 2

NOTE
1. RESISTANCE VALUES ARE INDICATED IN OHMS UNLESS OTHERWISE SPECIFIED.
(K=1,000 M=1,000,000)
2. CAPACITAGE VALUES ARE SHOWN IN MICROFARADS UNLESS OTHERWISE NOTED
(P=MICRO-MICROFARADS)
3. COMPONENT VALUES ARE SUBJECT TO CHANGE WITHOUT NOTICES.
4. ALL VOLTAGES ARE REFERENCED TO GROUND UNDER THE FOLLOWING CONDITIONS.
DC: NO SIGNAL EXCEPT WHER INDICATED.

ematic Diagram
EQA 280